

CHAPTER 7: LANDSCAPING & BUFFERING

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Section 7.1 Purpose and Applicability

The purpose of this chapter is to regulate the protection, installation, and long-term management of trees and shrubs and to minimize potential nuisances, such as visual impacts, noise, dust, odor, litter, and glare of lights, from adjacent properties. The appropriate use of existing and supplemental landscaping enhances the appearance of built environment and blends new development with the natural landscape. Existing vegetation should be retained where possible to ensure a natural established landscape.

All new developments (except for infill single-family detached residential uses) shall be designed in accordance with the requirements of this Chapter. A change of use or expansion of an existing building or parking area also requires compliance with the requirements of this Chapter. Generally, the responsibility for screening is that of the more intense land use. However, new developments with a less intense use being constructed next to an existing more intense use shall provide the required landscaping on the new development's property. Where necessary to accommodate creativity in site design, or where conformance with the strict requirements of this Chapter are not feasible, the Town Council, Planning Board, or Technical Review Committee, whichever is responsible for approving the plan, may modify these requirements, provided that the type and amount of landscaping or other features are equivalent in effectiveness.

Section 7.2 Landscaping Types

7.2.1 Type A Landscaping (Opaque Buffer)

7.2.1.1 Location and Width Required

Buffers shall be located entirely on the property of the new development. If the adjacent existing development expands by more than 20 percent, then the existing development shall also install a buffer meeting the requirements of this Section. The edge of all developments abutting Interstate 85 right-of-way shall have a minimum buffer width of 50 feet. Religious uses are exempt from this requirement unless found to be necessary to minimize potential nuisances as part of the Conditional Use Permit process. Prior to the Technical Review Committee meeting, the applicant must file a written report detailing at least one (1) community meeting held by the applicant. The following procedures must be met for the public input meeting: All adjacent property owners will be notified by the applicant. Such notice shall be mailed by certified mail to said property owners not less than ten (10) days prior to the date of the public input meeting and a certification of this mailing shall be submitted as part of the required report. The notice shall contain information regarding the time and location of the public input meeting as well as a description of the proposal. The report shall include the following:

- Those persons and organizations contacted about the meeting
- The date, time, and location of the meeting
- A roster of the persons in attendance at the meeting
- A summary of issues discussed at the meeting
- A description of any changes to the CUP petition as result of the meeting.

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The following table shows the minimum buffer width for a new or expanding development adjacent to a single-family residential use:

| New or Expanding Development | Minimum Buffer Width |
|--------------------------------------|-----------------------------|
| Civic (see above for religious uses) | 10 feet |
| Commercial | 15 feet |
| Industrial | 30 feet |
| Mixed Use | 10 feet |
| Multi-family Residential | 5 feet |

7.2.1.2 Composition

Type A landscaping functions as an opaque screen with a minimum height of eight (8) feet. Composition of the Type A buffer area may include a wall, solid fence, landscaped berm, planted vegetation, existing vegetation, or any appropriate combination of these elements. Intermittent planting of deciduous and evergreen trees shall obtain a height at maturity of no less than 20 feet and have no unobstructed openings wider than ten (10) feet between tree canopies upon maturity. Shrub plantings shall have a minimum height of three (3) feet at installation and have no unobstructed openings wider than four (4) feet. At least 50 percent of the required trees, and at least 75 percent of the required shrubs, shall be evergreen species locally adapted to the area. The use of existing vegetation to satisfy this requirement is encouraged. Supplemental planting may be required in addition to native materials.

7.2.2 Type B Landscaping (Semi-opaque Buffer)

7.2.2.1 Location and Width Required

Type B landscaping is required around the perimeter of all parking areas. The minimum buffer width is five (5) feet. The C-B district is exempt from this requirement.

7.2.2.2 Composition

Type B landscaping functions as a semi-opaque screen with a minimum height of three (3) feet for screening of car lights and glare from adjacent properties. The minimum height for a Type B buffer area adjacent to street right-of-way is two (2) feet. Composition of the Type B landscaping may include a wall, fence, planted vegetation, existing vegetation, or any appropriate combination of the elements. Shrub plantings shall have no unobstructed openings wider than four (4) feet. At least 75 percent of the required shrubs shall be evergreen species locally adapted to the area.

7.2.3 Type C Landscaping (Parking Lot Canopy)

7.2.3.1 Location and Number Required

Type C landscaping is required for all parking lots. A minimum of one canopy tree shall be located within 60 feet of every parking space. The measurement shall be taken from the base of the tree.

7.2.3.2 Composition

Large maturing canopy trees shall be planted in a manner that provides shade for the entire parking area at maturity. Ornamental trees shall be used in lieu of canopy trees under overhead utility lines. The use of differing species around the parking area is encouraged to promote diversity in the overall tree canopy. The use of existing vegetation to satisfy this requirement is encouraged.

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7.2.4 TYPE D Landscaping (Residential Yard Trees)

7.2.4.1 Location and Number Required

Yard trees are required for every major residential subdivision (greater than 5 lots), except in the Rural Preservation District. Trees shall be planted behind the sidewalk outside of the public right-of-way. Maintenance of the trees shall be the responsibility of the individual property owner. Yard trees may be placed anywhere on the property except that at least one tree is placed in the front yard. Each lot shall provide canopy trees in accordance with the following schedule:

| Lot Size | Yard Trees |
|------------------------------|------------|
| Less than 10,000 square feet | 1 |
| 10,000-20,000 square feet | 2 |
| More than 20,000 square feet | 3 |

7.2.4.2 Composition

The use of existing vegetation to satisfy this requirement is encouraged. Existing canopy trees over six (6) inches in caliper may be counted towards fulfilling this requirement. Required street trees (Type D Landscaping) may not be counted towards the fulfillment of this requirement. All trees required under this section shall be planted within the private lot and not within the street right-of-way.

7.2.6 Other Screening & Landscaping

7.2.6.1 Screening Requirements for Non-residential Open Storage and Unenclosed Structures

For open-air storage, or an unenclosed structure consisting of a roof, but no walls used for storage of materials, products, wastes or equipment associated with business or industrial uses located in any zoning district within 100 feet of the street right-of-way, screening must be provided on the subject property so as to materially screen said storage in the form of a berm, wall or fence or an appropriate amount of natural plantings as to provide the necessary amounts of screening to effectively screen the storage from view from any adjacent lot or street right-of-way.

7.2.6.1 Screening Requirements for All Zoning Districts

The following uses must be screened from abutting property and from a public street. The landscaping shall be positioned so that shrubs form a continuous, tight screen at mature growth:

- Dumpsters or trash handling areas
- Utility structures
- Loading docks or spaces

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Section 7.3 Landscaping & Screening Installation and Maintenance

7.3.1 Approved Plant List

| Large Maturing Trees | Growth Rate | Max. Height | Shape | Screen | Fall Color | Flowers | Bark | Poor Drainage | Diseases | Insects | Litter | Comments |
|-----------------------|-------------|-------------|-------|--------|------------|---------|------|---------------|----------|---------|--------|--|
| Deciduous | | | | | | | | | | | | |
| Ash, Green | F | 50'-80' | G | | | | | X | X | X | | Do not plant in heavy clay soil; use named varieties |
| Ash, White | M | 50'-80' | G | | X | | | | X | X | | Do not plant in heavy clay soil. |
| Bald-Cypress | M | 50'-80' | NP | | | | X | X | | X | | Produces small leaves that do not need raking. |
| Birch, River | F | 40'-70' | S | | | | X | X | | | | Subject to drought problems; may be multi-stem; good variety 'Heritage' |
| Elm, Lacebark | M | 40'-50' | G | | | | X | | | | | Resistant to Dutch Elm disease |
| Ginkgo | S | 50'-80' | NP | | X | | | X | | | | Plant grafted male only; pest free; tolerates pollution |
| Maple, Red | F | 40'-60' | BP | | X | | | X | | | | Can clog sewer lines; some shallow roots; use named varieties. |
| Maple, Sugar | M | 50'-75' | BP | | X | | | | | | | Best fall colors; good soils preferred; some shallow roots. |
| Oak, Laurel | M-F | 60'-80' | BP | | | | | | | | | Semi-evergreen leaves; use variety 'Darlington' |
| Oak, Northern Red | M-F | 60'-80' | BP | | X | | | X | | | | |
| Oak, Sawtooth | M-F | 35'-70' | G | | | | | | | | X | Holds leaves in winter; drops lots of nuts; toughest of the oaks. |
| Oak, Shumard | M-F | 40'-80' | BP | | X | | | X | | | | Good dark red fall color. |
| Oak, Southern Red | M-F | 70'-80' | BP | | X | | | X | | | | |
| Oak, White | S | 70'-80' | BP | | X | | X | | | | | May hold leaves; very long lived. |
| Oak, Willow | F | 70'-80' | BP | | | | | | | | | Majestic tree; most common tree in Charlotte. |
| Pagoda Tree, Japanese | F | 40'-75' | G | | | X | | | | | | May develop cankers which can girdle limbs. |
| Planetree, London | F | 60'-100' | BP | | | | | X | | | X | Withstands harsh city conditions. |
| Poplar-Tulip | F | 60'-90' | M | | X | X | | | | | | Flowers best observed close up; needs lots of space; good soils preferred. |
| Zelkova, Japanese | F | 60'-80' | V | | X | | X | | | | | Resistant to Dutch Elm disease. |
| Evergreen | | | | | | | | | | | | |
| Cedar, Deodar | M-F | 40'-70' | BP | X | | | | | | | | Subject to winter injury up to 15 years. |
| Cypress, Leyland | F | 60'-70' | C | X | | | | | | X | | Maintains good shape. |
| Hemlock, Canadian | M | 40'-70' | BP | X | | | | | | | | Plant in partial shade and good soils. |
| Magnolia, Southern | M-F | 50'-80' | BP | X | | | | | | | X | Drops large leaves in the spring and summer. |
| Oak, Live | S | 40'-80' | G | X | | | | | | | X | |
| Pine, Austrian | M | 50'-60' | BP | X | | | | | | | | Tolerates city conditions. |
| Pine, Loblolly | F | 40'-60' | NP | X | | | | | | X | | Susceptible to pine beetles if not kept healthy. |
| Pine, Virginia | M | 15'-40' | BP | X | | | | | | X | | Susceptible to pine beetles if not kept healthy. |
| Spruce, Norway | M-F | 40'-60' | NP | | | | | | | | | |

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| Small Maturing Trees | Growth Rate | Max. Height | Shape | Screen | Fall Color | Flowers | Bark | Poor Drainage | Diseases | Insects | Litter | Comments |
|-------------------------|-------------|-------------|-------|--------|------------|---------|------|---------------|----------|---------|--------|---|
| Flowering | | | | | | | | | | | | |
| Cherry, Kwanzan | S | 20'-25' | V | | | | | | X | | | Good soils preferred. |
| Cherry, Yoshino | M | 20'-25' | S | | | | | | X | | | Good soils preferred. |
| Crepemyrtille | M | 15'-45' | S | | | X | X | X | X | | | Must be maintained in tree form; Best variety 'Natchez' |
| Dogwood, Flowering | M-F | 20'-25' | S | | | X | X | | X | X | | Needs partial shade; good soils preferred. |
| Dogwood, Kousa | S-M | 15'-30' | S | | | X | X | | | | | More hardy thn flowering dogwood. |
| Hawthorne | S-M | 25'-30' | G | | | | | X | X | X | | Attractive fruit. |
| Hawthorne, Washington | S-M | 25'-30' | | | | | | X | X | X | | Attractive fruit. |
| Magnolia, Saucer | M | 20'-30' | G | | | | | | | | | |
| Pear, Aristocrat | F | 30'-40' | G | | | X | | | | | | Very tolerant; best limb structure. |
| Pear, Capital | F | 30'-40' | C | | | X | | | | | | Very tolerant; most columnar. |
| Pear, Redspire | F | 30'-40' | NP | | | X | | | | | | Very tolerant; more narrow than 'Bradford' |
| Plum, Purpleleaf | M-F | 15'-30' | | | | X | | | | X | X | Remains purple; produces fruit. |
| Redbud, Eastern | M | 20'-30' | S | | | X | | | X | X | | Does well in full sun. |
| Non-Flowering | | | | | | | | | | | | |
| Cherry-Laurel, Carolina | M | 20'-30' | G | X | X | | | | | | | Good soils preferred. |
| Holly, Foster #2 | M-F | 15'-25' | C | X | X | | | | | | | Multiple uses. |
| Holly, Savannah | F | 20'-30' | NP | X | | | | | | | | Multiple uses. |
| Hornbeam, American | S | 20'-30' | S | | | X | X | X | | | | Pest free; tolerates city conditions. |
| Hornbeam, European | S | 40'-60' | C | | X | | X | X | | | | Pest free; tolerates city conditions. |
| Maple, Hedge | S | 15'-35' | G | | | X | | | | | | |
| Maple, Japanese | S | 15'-25' | S | | X | X | | | | | | |
| Myrtle, wax | S-M | 10'-15' | S | X | X | | | X | | | | |
| Photinia, Frazier's | F | 10'-15' | G | X | X | | | | | | | |

| Shrubs | |
|------------------------|---|
| Nelly R. Stevens Holly | Any other variety of shrub may be approved by the Zoning Administrator as long as it has the capacity to provide an equivalent of growth and opacity. |
| Burford Holly | |
| Wax Myrtle | |
| East Palatka Holly | |
| Savannah Holly | |
| Tea Olives | |
| Eleagnus | |
| Ligustrum | |
| Japanese Black Pine | |
| Juniper | |

7.3.2 General Installation Provisions

- A. To the extent that existing natural vegetation located on the same parcel of land as the proposed development can meet the required screening levels of this Section, the use of such materials is encouraged. In such case, the owner shall designate the land on which such materials are rooted, which shall contain at least the minimum width required.
- B. No structure other than a wall, fence, sidewalk, mailbox, sign or driveway shall be permitted within a required screen area. No off-street parking may take place in any required screen area. Where plant materials are required, the required amount of plant materials shall be installed on the side of any wall or fence opposite the new development.
- C. The height of any screen material required by this Ordinance in the vicinity of a point of ingress and egress or at any intersection may not exceed two (2) feet in height when mature within the sight triangles.

7.3.3 Wall, Fence, and Berm Standards

Whenever a screening alternative specified is selected which includes a wall, fence, or berm, such wall, fence, or berm shall meet the following requirements:

- A. Any wall shall be constructed in a durable fashion of brick, stone, or other masonry materials with no greater than 25 percent of the wall surface left open. All walls, except those constructed of stone, shall be of a consistent pattern. Gates constructed to the standards for fence materials below, may be included in the wall to allow passage.
- B. Any fence shall be constructed in a durable fashion of wood (or similar material) posts and/or planks with a minimum diameter or width of three (3) inches and with no greater than 25 percent of the fence surface left open between posts and/or planks. Wooden gates meeting such standards of opacity may also be included.
- C. No wall or fence used as part of a screen shall be less than six (6) feet nor more than eight (8) feet in height above grade.
- D. Berms shall be located within common open space maintained by a Home Owner's Association or other responsible party and shall not be located within a subdivision lot of record.
- E. All berms shall be grassed and/or planted with other plant materials sufficient to prevent soil erosion. If grassed alone, any berm installed to meet the requirements of this Section shall be no less than four (4) feet nor greater than eight (8) feet in height. No slope of a berm shall exceed a slope greater than one (1) foot of rise for every three (3) feet in plane. No part of the berm shall be left as bare soil. Any required plant materials accompanying a berm may be planted on the berm and/or along either side of the berm. It is recommended that, where feasible, at least 75 percent of any required shrubs be planted on the slope of the berm opposite the new development.
- F. Where a fence or wall is used as part of a required screen area, any required plantings accompanying the fence or wall shall be located on the side of such fence or wall opposite the new development.

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7.3.4 Plant Standards and Plant Installation Standards

The following standards shall apply to all new plant material installed as part of a screen required under these regulations:

- A. Trees to be planted shall be selected from the approved species listed in tables of Section 7.3.1. The Zoning Administrator may approve alternative large or small maturing trees excluding sweet gum, catalpa, wild cherry, wild elm, princess, hackberry, and tree-of-heaven.
- B. Minimum tree caliper measured six (6) inches above ground on all trees shall be 2-1/2 inches and the minimum height shall be eight (8) feet. No trees identified as large maturing trees shall be planted within 20 feet of an electrical distribution line. This does not include low-voltage insulated or covered lines of 240 volts or less or telephone or cablevision lines.
- C. Large shrubs used in any screening or landscaping must be at least two (2) feet tall when planted and shall be selected from the approved species listed in the table in Section 7.3.1. They must be of a variety and adequately maintained so that an average height of five (5) to six (6) feet could be expected as normal growth within three (3) years of planting.
- D. All plant material installed shall be free from disease.
- E. Plant materials shall be planted in accordance with generally accepted and recommended planting and growing practices.
- F. All plant material shall be installed in a fashion that ensures the availability of sufficient soil and water to sustain health growth.
- G. All plant material shall be planted in a manner which is not intrusive to utilities or pavement.

7.3.5 Landscaping Maintenance

The plantings, fences, walls, or berms that constitute a required landscaping shall be properly maintained in order for the landscaping to fulfill the purpose for which it is established. The owner of the property and any tenant on the property where landscaping is required shall be jointly and severally responsible for the maintenance of all landscaping materials. Such maintenance shall include all actions necessary to keep the landscaped area free of litter and debris; to keep plantings healthy; to keep plant growth from interfering with safe vehicular and pedestrian travel, or use of parking areas, or from creating nuisances to adjoining properties; and to keep walls, fences, and berms in good repair and neat appearance. Any vegetation that constitutes part of a required landscaping area shall be replaced in the event that it dies. All landscaping materials shall be protected from damage by erosion, motor vehicles, or pedestrians which could reduce the effectiveness of the required landscaping.

7.3.6 Relief from Landscaping Requirements

- A. In the event that the unusual topography or elevation of a development site or the location or size of the parcel to be developed would make strict adherence to the requirements of this section serve no meaningful purpose or would make it physically impossible to install and maintain the required landscaping, the Technical Review Committee may alter the requirements of this section provided the spirit and intent of the section are maintained. Such an alteration may occur only at the request of the developer, who shall submit a plan to the Zoning Administrator showing existing site features that would screen the proposed use and any additional screen materials the developer may propose to have installed. The Technical Review Committee shall have no authority to alter the screening and buffer requirements unless the developer demonstrates that existing site features and any additional screening materials will screen the proposed use as effectively as the required screen.

- B. The vacancy or non-use of an adjoining parcel shall not constitute grounds for providing relief to the landscaping requirements contained in this Ordinance. Neither shall the desire of an owner to make a more intensive use or greater economic use of the property be grounds for reducing the landscaping requirements. Where the effect of the landscaping requirements of this section is to deny the owner reasonable use of the entire tract (or tracts) of property, a Variance may be requested from the Board of Adjustment in accordance with Chapter 16.

7.3.7 Existing Landscaped Areas

In cases where an existing, landscaped or vegetated area is located on the same tract as the proposed development, further plantings and or improvements shall not be required so long as said screened area is of sufficient width and depth and contains adequate and sufficient materials to meet the requirements of this Ordinance. If the landscaped or vegetated area is deficient, the developer shall make needed improvements and/or additions to satisfy the landscaping requirements and intent of this Ordinance.

7.3.8 Visibility at Intersections

Except as herein provided, on a corner lot in any district, no hedge, shrubbery, tree, natural growth, sign, fence, wall, or other obstruction of any kind to vision which obstructs cross-visibility at a level between two (2) feet and nine (9) feet above the level of the center of the street (where the projection of the sight triangles intersect the centerline of the street) shall be placed or maintained within the triangular area formed by the intersection of front or rear lot lines and the side lot line and a straight line connecting points on said lot lines, which are located 15 and 75 feet from the point of intersection. In instances where NCDOT sight triangle provisions are applicable, such regulations shall prevail.

7.3.9 Installation of Landscaping Required Prior to Occupancy

Fences, walls, berms, and landscaping materials required in this Chapter shall be installed prior to occupancy.

- A. **Improvement Guarantees:** It is recognized that vegetation used in landscaping or screening should be planted at certain times of the year to ensure the best chance of survival. In order to ensure compliance with this section and to reduce the potential expense of replacing landscaping or screening materials which were installed in an untimely or improper fashion, in lieu of requiring the completion and installation of these improvements prior to occupancy, the Town of China Grove may enter into an agreement with the developer whereby the developer shall agree to complete all required landscaping and screening. To secure this agreement, the developer shall provide to the Town of China Grove one of the following guarantees. The amount of such guarantee shall be equal to 1.25 times the cost of purchasing, installing, and completing landscaping and screening materials required under this Ordinance. All such guarantees shall be subject to the approval of the Town Council and shall be made payable to the Town of China Grove. The developer shall provide either one or a combination of the following guarantees:

1. **Surety Performance Bond(s):** The developer shall obtain a performance bond(s) from a surety company authorized to do business in North Carolina. The duration of the bond(s) shall be until such time as the improvements are accepted by the Town Council.
2. **Cash or Equivalent Security:** The developer shall deposit cash, an irrevocable letter of credit or other instrument readily convertible into cash at face value, either with the Town or in escrow with a financial institution designated as an official depository of the Town of China Grove. If cash or other instrument is deposited in escrow with a financial institution as herein provided, the developer shall then file with the Town of China Grove an agreement between the financial institution and himself guaranteeing the following:

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- a. That said escrow account shall be held in trust until released by the Town Council and may not be used or pledged by the developer in any matter during the term of the escrow; and
 - b. That in the case of a failure on the part of the developer to complete said improvement, the financial institution shall, upon notification by the Town of China Grove and submission by the Town of China Grove to the financial institution of a landscape architect's estimate of the amount needed to complete the improvements, immediately either pay to the Town the funds estimated to complete the improvements, up to the full balance of the escrow account, or deliver to the Town any other instruments fully endorsed or otherwise made payable in full to the Town.
- B. **Default:** Upon default, meaning failure on the part of the developer to complete the required improvements in a timely manner as spelled out in the performance bond or escrow agreement, then the surety, or the financial institution holding the escrow account, shall, if requested by the Town Council, pay all or any portion of the bond or escrow fund to the Town of China Grove up to the amount needed to complete the improvements based on a landscape architect's estimate. Upon payment, the Town Council, in its discretion, may expend such portion of said funds as it deems necessary to complete all or any portion of the required improvements. The Town shall return to the bonding firm any funds not spent in completing the improvements. Should the amount of funds needed to complete the installation of all required improvements exceed the amount in the bond or escrow account, the developer shall nonetheless be responsible for providing the funds to cover such costs. The developer shall at all times bear the financial burden for the installation of all required improvements. A lien shall be attached to the property if the developer fails to provide the full financial responsibility under this Section.
- C. **Release of Guarantee Security:** The Zoning Administrator may authorize the release of a portion of any security posted as the improvements are completed and approved. Such funds shall then be released within 10 days after the corresponding improvements have been so approved.